

ABSTRACT

An in-vivo high resolution lateral and axial tomography system of the retina, is provided, including a Michelson interferometer, generating a tomographical image by full field OCT interference with Z sweeping, adaptive optical correction apparatus, correcting the wave fronts coming from and going to the eye, including a reference source, a deformable mirror and wave surface analysis apparatus, detection apparatus producing an image from an interferometric measurement using the OCT principle and apparatus for focussing the wave surface analyser. The apparatus for focussing are embodied and controlled, synchronously with the Z sweeping to force the deformable mirror to adopt an additional curvature, such as to combine the input light source and detection apparatus at a given depth in the retina.